MEDICAL PRACTICE

Contemporary Themes

Psychological problems in intensive care

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British Medical Journal, 1977, **2**, 441-443

Intensive care units are now well established in modern hospital practice and there can be few clinicians in any specialty who have not had some of their patients treated in such units. Intensive care units form a collection of the most ill in hospital. In our own unit the average mortality based on the last 1700 patients admitted was 13·5%, although there was a wide variation depending on the type and number of diseases that individual patients had. Without the special care, technical skill, and resources that the unit provides, the mortality of these patients would have probably been about 80%.

Serious illness, of any sort, creates psychological problems for the patients—for example, the anxiety of the patient with ischaemic heart disease or the despair of the patient with obstructive lung disease are well known. Certain psychological problems, however, develop in patients in intensive care, which would appear to be particularly related to being in such a unit.

Since patients may be referred into the unit from any medical or surgical discipline it is perhaps worth drawing attention to some of these psychological problems, particularly as occasionally they may be unexpectedly severe or bizarre.

Problems and case histories

This intensive care unit admits about 450 patients a year, suffering from various problems and diseases ranging from postcardiac surgery to polyneuritis. The patients stay on average two to three days, although this varies widely. Over the years we have come to recognise several particular psychological problems that these patients have.

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SIMPLE REACTIVE APATHETIC DEPRESSION

Simple reactive apathetic depression is extremely common in patients whose stay in the intensive care unit is prolonged. Its onset is almost invariably on the fifth or sixth day after admission to the unit, and it disappears spontaneously after a further week to ten days. Characteristically, the patient becomes apathetic about his own recovery—even when it is obvious that he has made a considerable improvement since admission. Co-operation with staff—for instance, physiotherapy or nursing staff—becomes minimal. The patient believes he will not recover, and so refuses to cough or expand his lungs, or move spontaneously. As a result of the fall in morale his physical condition may deteriorate—for example, sputum retention becomes a problem. This very deterioration is then used to justify a belief that he will not recover. Over half of those patients whose stay in the intensive care unit is prolonged suffer from this condition.

This depression has been attributed to sleep deprivation resulting from frequent nursing interventions coupled with the brain-washing effect of being aware that one's life was at risk while in an environment of bustle, noise, strange people, strange machines, and constant light. While these are important factors, they are not the whole explanation. The incidence or severity of this depressive state is unchanged when the ambient lighting or noise is reduced, as occurs when the number of patients in the unit is low or when nursing interventions are reduced to a minimum by substituting remote monitoring by machines—for instance, electrocardiographic monitoring, prolonged intra-arterial cannulation with continuous blood pressure measurement, or remote blood sampling for biochemical determinations.

Management of these patients is difficult. Tranquillisers appear unhelpful, while powerful sedatives or narcotics create more problems than they solve. Brusque but sympathetic handling by staff appears to be the most effective measure currently available, particularly if the patient is repeatedly informed that the depression is normal and is reassured of his recovery. Encouraging relatives to sit with patients does not reduce its incidence. Patients derive substantial emotional benefit from the presence of relatives[1 2] but this benefit applies only while the relative is physically present.

REMOVAL OF VENTILATOR

A much rarer, but much more serious, psychological disturbance may occur when the patient is being weaned off the ventilator and has

to sleep for the first time without support, as the following abbreviated case reports show.

Case 1

A young university graduate was admitted while developing acute polyneuritis. He had total paresis of all muscles except for the sternomastoids, and pain and paraesthesiae were severe. He was intubated and ventilated and later had a tracheostomy, but otherwise was cared for in the usual manner. During the third week there was a single episode of respiratory distress, requiring rapid changing of the tracheostomy tube under diazepam sedation and aspiration of a mucous plug from the right main bronchus. Three hours later he developed continuous violent head rolling so severe as to imitate status epilepticus in a near paralysed patient—although an electroencephalogram during this episode was normal. Intravenous diazepam produced apparently normal sleep, and the head rolling did not reappear.

At the fifth week the disease began to regress, and a programme of slow weaning from the ventilator was started. At the end of the sixth week he could breathe spontaneously without physical distress or blood gas abnormality for 12 hours a day. After three days of this we proposed to withdraw the ventilator at night, but because of intense apprehension postponed this for one night. A previous victim (case 3) of the same disease was recalled to help reassure the patient—to no avail. The next night despite considerable patient anxiety the ventilator was withdrawn and the patient given intravenous sedation to induce sleep, with the clinician concerned in attendance.

Next morning immediately on awakening the patient was totally withdrawn and had the behaviour and emotional characteristics of a small child. Hostility to the clinician who had removed the ventilator was severe. Psychiatric assessment of this stage described what was termed as a "terror neurosis—acting like a 15-month-old child with severe apprehension and lack of trust." The patient continued to behave as a small child, looking at picture books, etc, although intravenous diazepam, 5 mg on two occasions—for instance, to change the tracheostomy tube for an uncuffed tube—produced a complete return to adult behaviour and intelligent conversation for 45 minutes. Oral diazepam was ineffective. Over the next six weeks the patient's apparent mental age gradually increased, passing through adolescence to mature adulthood. The patient was subsequently totally amnesic of the whole period of the illness from the third week on. Three months later the patient had fully regained the conscientious but happy, outgoing personality that had existed before the illness.

Clearly he went through a considerable emotional trauma—from being an enthusiastic partaker of amateur sports to being virtually deafferentiated except for paraethesiae and phantom limb pain. The episode of respiratory distress appeared to have implanted an intense fear of a recurrence, and the patient was unable to cope with the thought of going to sleep without the aid of the ventilator.

Case 2

A university lecturer needed artificial ventilation after cardiac surgery. After 48 hours we proposed to withdraw the ventilator at night. The patient was frightened that he would be unable to breathe while asleep and deliberately forced himself to remain awake off the ventilator for 36 hours before collapsing asleep from exhaustion. Thereafter he had a profound anxiety state and two years later was still needing psychiatric support. Before operation he had been a normal integrated successful person.

Case 3

A successful woman executive developed polyneuritis affecting most of the trunk and leg muscles. At weaning she became acutely anxious and fearful despite all reassurance. She remained in this very anxious and depressed state for five weeks, although this was interspersed with short periods of intense euphoria associated with extravagant planning without regard to her motor disabilities—for example, when it was suggested that she have a few hours at home over Christmas in a wheelchair (for she could hardly stand), she planned cleaning the whole of her house and preparing all the food for a large family party. Six months later she was back at work coping with a staff of 50 people, her old normal self but amnesic for most of the time spent in the intensive care ward.

Case 4

A man who had an infected lung infarction in addition to severe respiratory failure had several episodes of septicaemia, hypotension, and cerebral ischaemia, associated with widespread abnormalities in the electroencephalogram. Gradually his chest condition cleared, and he was weaned off the ventilator, when he became acutely withdrawn and totally apathetic. It appeared impossible to be able to get through to him or arouse him. This state persisted for three weeks until his wife arrived with some very personal photographs and shut herself behind curtains with him for two hours. When she emerged he spontaneously began to make some limited contact with the staff. Within two weeks he was the "life and soul" of his own ward, making morning tea for the other patients, and cheerfully talking to everyone in the ward. He was amnesic for most of his time in the intensive care ward.

Case 5

A highly intelligent, successful young business executive developed respiratory failure from severe pneumonia after bilateral adrenalectomy. During weaning from the ventilator he became extremely anxious, despite a normal $PaCO_2$ and respiratory movement, so that weaning had to be suspended for 24 hours. The next day his anxiety alternated with intense euphoria, and the weaning programme was restarted. Two weeks later on his own ward, his pneumonia having completely resolved, he still showed the pattern of alternating anxiety and euphoria. Four weeks later he was still receiving treatment for depression and apathy so that sputum retention occurred, and his pneumonia recurred so severely that he was re-admitted to the intensive care unit for artificial ventilation, where he remained in a state of acute depression for the next month. His pneumonia resolved and recurred twice before he finally died.

STRESS ON NURSING STAFF

The third type of psychiatric disorder that occurs in intensive care units affects the nursing staff. Nurses who staff such units are among the elite of their profession. The level of clinical responsibility that they have to exercise is extremely high. If they are to feel secure in their professional judgment the academic knowledge they need to have to understand what is happening to their patients—and to interpret any changes they observe—is also very substantial. For optimum patient care it is better for the same nurse to look after the same patient for each shift they are on duty. They then get to know their patients and their individual foibles extremely well and can elicit, by persistent persuasion, maximum co-operation and effort from the patient, whether this is to cope with the patient's sagging morale or clear the chest of retained secretions. Yet the mortality of the patients is high. All this imposes severe demands on the staff, and when despite a lot of hard work and effort, death occurs unexpectedly they can be greatly disturbed by it.

As a result of the stresses of working in an intensive care unit at least three nurses working in different intensive care units have taken or attempted to take their own lives. Two succeeded, and in both cases the precipitating circumstances were identical. A patient apparently near recovery, whom the nurse had looked after for a long time, died unexpectedly and in rather dramatic circumstances while the nurse was present. One patient died from a massive secondary haemorrhage from an aortic graft and the other, a young severe chronic asthmatic, died while inhaling isoprenaline.[3] Both nurses took drugs and other equipment (syringes, cannulas, etc) from the unit and used the drugs after coming off duty. The third nurse, who was working under severe pressure in a very busy unit with several decerebrate patients, also took drugs from the unit intending to commit suicide but was found and resuscitated in time. She was subsequently treated for acute depression.

It is difficult to know how best to reduce these effects of stress on staff. Rotating staff to other parts of the hospital for periods creates dissatisfaction as they cannot use their highly prized knowledge and skills outside the intensive care unit. They therefore resign. Leadership, individual counselling, and a sympathetic nursing administration can do much to lessen the effects of this stress but do not always succeed. Holidays and extra time off when the patient work load is slack help but may cause conflict with other members of the hospital community, especially with a remote bureaucratic administration. This is particularly so when urgent requests to draft in extra staff

agency nurses, etc, are made to cope with unusual patient loads, as happens periodically. Recognition and appreciation by senior medical staff of the care that has been given to their patients is also important in mitigating the effects of this stress. Clearly, if this should prove to be a widespread problem then perhaps psychological screening of the staff may be worth considering.

Discussion

Intensive care units have been with us for some time and soon after they were established it became apparent that they were a potential source of psychological problems. Kornfeld[4] and Schroeder[5 6] have identified three particular problems—anxiety, exhaustion, and communication difficulties. Nevertheless, even in a unit where a particular effort has been made to minimise these there are still substantial psychological problems.

It is strange that the reactive apathetic depression starts so long after the patient was most ill and when the patient has made a substantial improvement, albeit still dependent on technical support. Biochemical, nutritional, and circulatory states have often been stable for two or three days before the onset of depression. Noteworthy among the patients' responses is that tolerance to repeated physical disturbances—such as physiotherapy or nursing attention—is reduced. Even when these attentions are reduced to a minimum the patient remains depressed. Drafting relatives to sit for prolonged periods with the patient confers no lasting benefit, though as the condition is self-limiting this attention does help tide the patient over a difficult time. Considerable support of the relatives is also necessary lest they too become exhausted or anxious, which communicates readily to the patient, and a vicious circle of mutual anxiety develops.

It is difficult to appreciate why, when the patient is making such obvious progress, he should react in this way. Nevertheless, one reason may be the change in rate of recovery: the patient has made rapid progress in some physiological spheres of his illness and expects the rest of his body to recover as quickly. Thus there is a failure to meet this expectation coupled with a slow realisation of how much further there is to go before recovery is complete. Dramatic changes in the tempo of treatment—for instance, mobilisation, sitting out of bed, or trying to stand, even while still attached to a ventilator, with monitoring equipment, intravenous infusion lines, catheter drainage bags, etc all in situ—appear to give a prolonged boost to the patient's morale, as does providing a television set and letting the patient choose his favourite programme. The change of emphasis towards even a grotesque form of normality appears to help considerably, and enables them to have more confidence and trust that their bodies are recovering and will function normally again. Such changes in tempo carry with them an important implication that the doctors are convinced of the improvement—that is, deeds rather than words are more persuasive in convincing the patient that he will recover.

Serious psychological breakdowns are fortunately rare—less than 0·5% of all patients admitted to the intensive care unit. There seems no common background in respect of their medical presentation. From personal observation of the five patients described the one common factor was that they were all highly intelligent and imaginative people, so that fear, particularly fear of going to sleep, perhaps to wake asphyxiated or never to wake, was very real. These patients had been under severe mental and emotional stress, with, to them, the threat of dying ever present. Perhaps not surprisingly, when their emotional crutch, the ventilator, was removed, they reacted in this way.

What is more surprising is that the incidence of this condition is as low as it is. It is difficult to envisage other spheres of activity where the threat of death is so persistently pervasive and where patients, or people, have somehow to get through this. There are similarities to the so-called "shell shock" victims of the past wars. To the patients, their relatives, and to their uninitiated clinicians, however, these psychological breakdowns appear devastating, and to the relatives particularly it is the last straw that breaks their morale—as they, too, are keyed up with the thought that, with the advent of discontinuing the ventilator, their nearest and dearest are now over their illness and the rest is a matter of convalescence. Expert psychiatric care may be needed not only for the patient but also to help their relatives over this period.

It is a well-known aphorism that, by keeping patients alive, intensive care units have allowed physiological conditions to emerge that hitherto we have been unaware of, as previously all the patients died. Perhaps what applies to the physiological responses applies also to psychological responses to acute life-threatening illness. That there are grave psychological responses to serious illness and recovery is suggested by the unexpectedly high incidence of suicide after major heart surgery. Clearly this is likely to be a field for fruitful research.

The fact that psychological problems occur in intensive care wards suggests that directors of such units are increasingly likely to have to establish psychiatric support services as well as all the other support services from other disciplines.

References

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(*Accepted 24 May 1977*)

ONE HUNDRED YEARS AGO In the application of medicine and the allied sciences to the prevention of disease, the present century may claim precedence of rank before any earlier periods in human civilisation. During the last forty years, each decennium has been characterised by an ever-growing appreciation of the great truths of sanitary science. From the days of the Health of Towns Reports by Edwin Chadwick to the later days of Parkes and Simon, medical men have continuously and unselfishly waged war against the vested interests of filth and zymosis. Nor have their efforts been futile, if increased salubrity and a higher average duration of life may be regarded as tests of success. Nowhere have these tests yielded more satisfactory results than in our naval and military forces; and seeing how much has been achieved, it does not appear out of place to express a hope that our Governments may always take the precautions that are necessary to insure to medical men, in their official capacities, such power and position that their representations may receive due support. I have already had occasion to dwell upon the reports of the (late) Medical Officer of the Privy Council. The work of which he has been the ruling spirit constitutes a memorial, which will remain an honour to himself and his colleagues, as it is to the time and people for which he laboured. It was with grief that the medical profession heard of Mr Simon's resignation, and the pain was intensified by the report that his office was to be abolished. In the Supplementary Reports, which Mr Simon has brought out since quitting his post, we are promised that some of the investigations, commenced under his supervision, shall be continued; may we hope with the same zeal, earnestness, and success as before. It would be difficult to express adequately the sense the profession entertain of the value and significance of all that has been achieved by the Medical Department of the Privy Council; but I am sure that we all endorse the sentiments that are so well conveyed in the following passage, which I take from Mr Simon's last Report: "As for the general value and promise of that kind of work in its bearing on the progress of medicine, I entertain the strongest conviction that, in regard of all antagonism to disease, whether with preventive or curative measures, and whether by official or private hands, medicine's best prospects of increase and success are inseparable from such studies of exact science; and that, in proportion as the pathological insight becomes more clear, the growth of practical power will surely follow." (*British Medical Journal*, 1877.)